Windows Subsystem for Linux - Debian 10.3

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Installation

- Enable “Developer mode” in *Settings –> Update & Security –> For developers*
- Press Windows key + R and run **optionalfeatures.exe**. Enable *Windows Subsystem for Linux*. Restart the computer.
- Open Windows Power Shell as Administrator, then run the following line and reboot:

```
Enable-WindowsOptionalFeature -Online -FeatureName Microsoft-Windows-Subsystem-Linux
```

- Open the Microsoft Store and search for “Linux”. Choose and get Debian, as per 2020-03-10 this is Debian 10 Buster.
- Open *Debian* from the start menu and complete installation.
- Upgrade all packages:

```
sudo apt update
sudo apt upgrade
```

- Install packages:

```
sudo apt install vim
sudo apt install wget
sudo apt install zip
sudo apt install rsync
```

- Create /run/sshd folder:

```
sudo mkdir /run/sshd
```

- Create a shortcut to the executable on your desktop:

```
C:\Users\user\AppData\Local\Microsoft\WindowsApps\debian.exe
```

- The root file system can be found at a path similar to:

```
C:\Users\bco\AppData\Local\Packages\TheDebianProject.DebianGNULinux_76v4gfsz19hv4\LocalState\rootfs
```

- Add and icons to the shortcuts

SSH Server

- Install packages:

```
sudo apt install openssh-server
```

- Follow the SSH Client and Server guide. SSH into your host and open port 22 in the Windows Firewall.

Start SSH Server at Windows boot time

- Open a bash command shell and allow <user> to run ssh as root, add the following line after %sudo:

```
sudo visudo
%sudo ALL=(ALL:ALL) ALL
<user> ALL=(root:root) NOPASSWD: /etc/init.d/ssh
```

- Open Windows Task Scheduler and click *Create Basic Task...*
  1. General
     - Name : Start Bash SSH Server
     - Description: Start the WSL SSH Server via a bash command
     - Run only when user is logged on
     - Run with highest privileges
  2. Trigger
     - Begin the task: At log on [OR] On an event
     - (if you mount VeraCrypt volumes during boot it's better to use *On an event* and begin the task when the volumes are mounted)
     - Specific user: <user>
     - Enabled
  3. Actions
     - Action: Start a program
     - Program/script: C:\Windows\System32\bash.exe
     - Add arguments (optional): -c “/usr/bin/sudo /etc/init.d/ssh start”
  4. Conditions
     - Start the task only if the computer is on AC power
  5. Settings
     - *Uncheck* Stop the task if it runs longer than:
  6. Alternative Action when starting a non elevated script “startup”
     - Action: Start a program
     - Program/script: C:\Windows\System32\bash.exe
     - Add arguments (optional): -c “/home/user/startup”
     - Script “startup”:

```
#!/bin/bash
sudo /etc/init.d/ssh start
```

LAMP

- Apache 2.4 and PHP 7.4
- MariaDB 10.3

Mounting encrypted drives

- WSL can mount encrypted drives, but they must be mounted at the time wsl or bash runs the first time after boot.
- If you do not execute any tasks when the host boots up, then just make sure your encrypted drives are mounted when you run wsl or bash.
- If you **do** execute WSL tasks when the host boots up, replace the *Task Scheduler* entry for the trigger and make it rund after the *Mount* script has executed:

```
<QueryList>
  <Query Id="0" Path="Microsoft-Windows-TaskScheduler/Operational">
    <Select Path="Microsoft-Windows-
TaskScheduler/Operational">*[EventData[@Name='TaskSuccessEvent'][Data[@
Name='TaskName']='\Mount']]</Select>
  </Query>
</QueryList>
```

- Remember to “Enable All Task History” under Actions tab. **You might need to do this again after a Windows 10 major version upgrade**.

Mounting external drives

```
mkdir /mnt/f
mount -t drvfs f: /mnt/f
```

Links

- Windows Subsystem for Linux Installation Guide for Windows 10
- How Does the Windows 10 Subsystem for Linux Work and What Is It For?
- Background Task Support in WSL
- SSH on Windows Subsystem for Linux (WSL)
- Backup with rsync on Windows (WSL)
- Docker Running Seamlessly in Windows Subsystem Linux

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